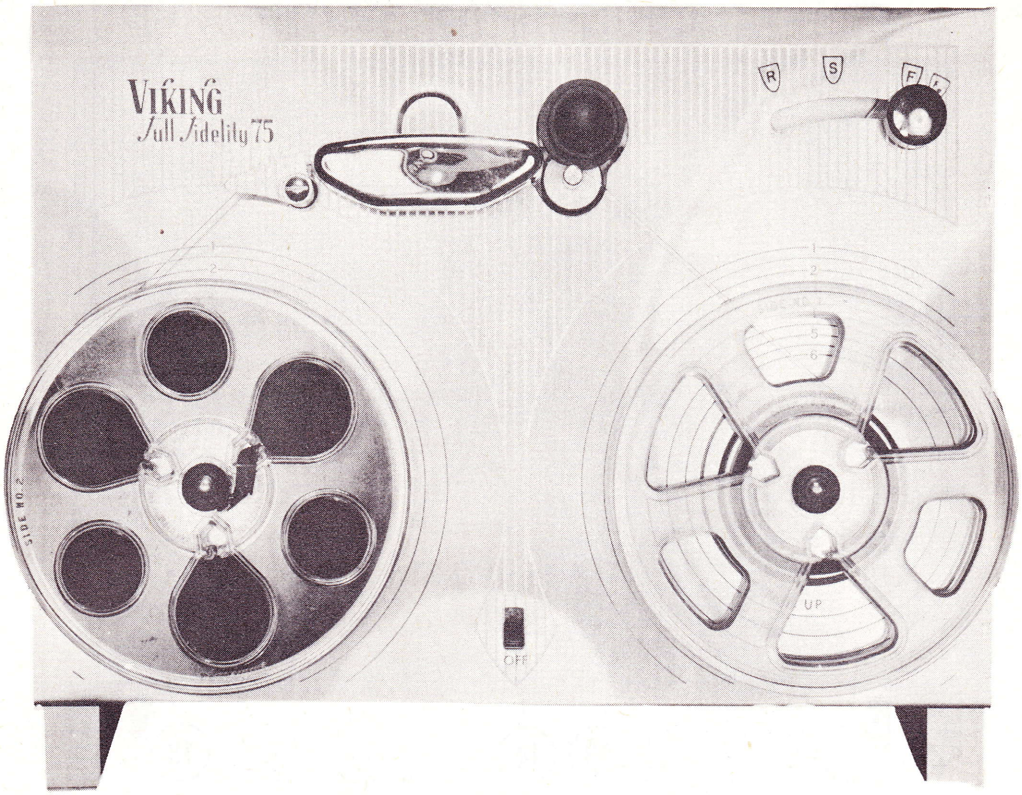

GENERAL INFORMATION

The Viking FF75 Series tape transport mechanism consist of the following types: FF75 covers basic mechanism, FF75R indicates erase-record heads supplied, FF75RM indicates erase and record-monitor operation (3 heads), FF75S indicates stacked stereophonic heads, FF75SU indicates stacked and staggered stereophonic heads, FF75SR indicates stereophonic head plus monaural erase-record heads, L suffix indicates tapelifter accessory and LP suffix indicates tapelifter and pressure pad accessory.

The Viking FF75 Series can be used with the Viking RP61 Record-Playback amplifier for professional quality playback, recording and duplicating, or used with the PB60 Preamplifier, for playback of recorded tape. These amplifiers are covered in this manual.

These recorders have two tape speeds, 7 1/2" and 3 3/4" per second. Using both tracks of the tape, the recording time is as follows:

Reel Size	3 3/4" Speed	7 1/2" Speed
5" (600 ft.)	1 hour	1/2 hour
7" (1200 ft.)	2 hours	1 hour

FF75 Series is designed to operate on 60 cycle, 105-125 volts, AC supply only.

Manufactured by:

Viking of Minneapolis
3520 East 43rd Street
Minneapolis 6, Minnesota

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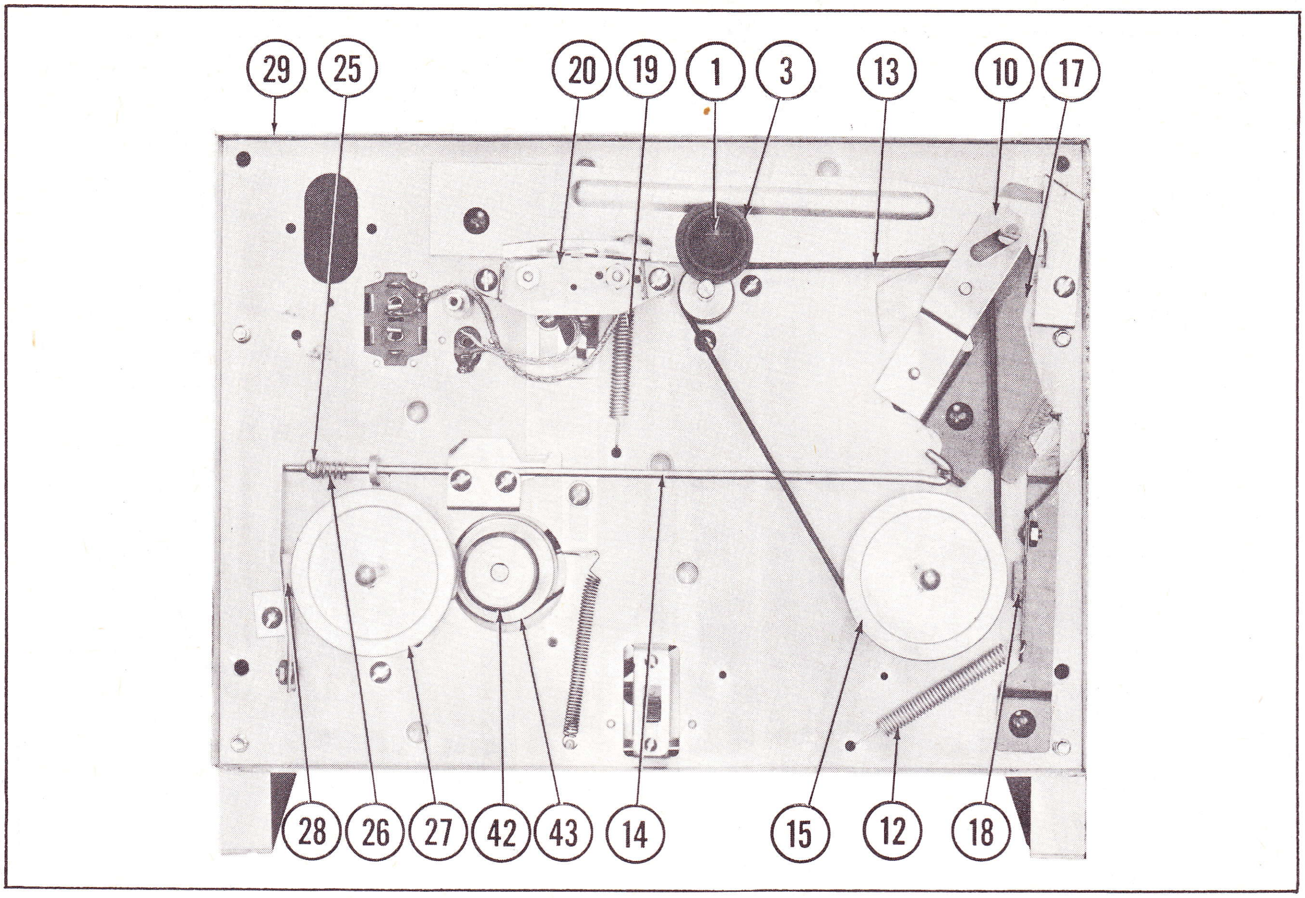


FIGURE 1

SPECIFICATIONS

Power Requirement: 110-volts, AC, 60 watts.

Tape Speed: 7-1/2 ips. (3 3/4" ips speed is available by changing belt to smaller groove on motor pulley. Not recommended for reproduction of frequencies higher than 7500 cps.)

Frequency Response: 50 to 15,000 cps plus at 7-1/2 ips tape speed.

Signal-To-Noise Ratio: 45 db or better. (This characteristic can be adversely affected by location of transformer or other sources of strong magnetic fields within 12 inches of the playback head or heads.)

Flutter: 0.3 per cent or less.

Weight: 11 pounds.

Record Head Characteristics:

Track width — 0.009 in.
Gap width — 0.0015 in.
D-C resistance — 300 ohms
Inductance — 290 mh at 1 kc

Erase Head (if used):

Track width — 0.125
Gap width — 0.008
DC resistance — 125 ohms
Inductance — 30 mh
Impedance — 10K at 30 kc
39K at 100 kc

OPERATING INSTRUCTIONS

1. Plug in the AC cord at a 110 volt, 60 cycle receptacle.

2. Place the Tape Motion Control in the "S" stop position.

3. Turn the AC switch on.

Threading The Tape-

1. Place a reel of tape on the left reel plate (27) and an empty reel on the right reel plate (15) making sure the reel slots engage the pins on the reel plates.

2. Unwind about 10" of tape from the reel. Hold a section of the tape straight with both hands and insert the tape in the tape slot making sure the dull coated side face in toward the head.

NOTE: This recorder uses Type "A" wound tape, i.e. the dull magnetic coated side faces inward on the reel. If the tape used is Type "B" (coated side facing outward) the recording will be made at a very low sound level and the playback will be almost inaudible.

3. Insert the free end of the tape into one of the three radial slots in the hub of the empty reel. Turn the reel several turns, counterclockwise, until the tape is secured to the reel and all slack is taken up between reels.

To Record From Microphone-

1. Turn the On-Off control clockwise on the

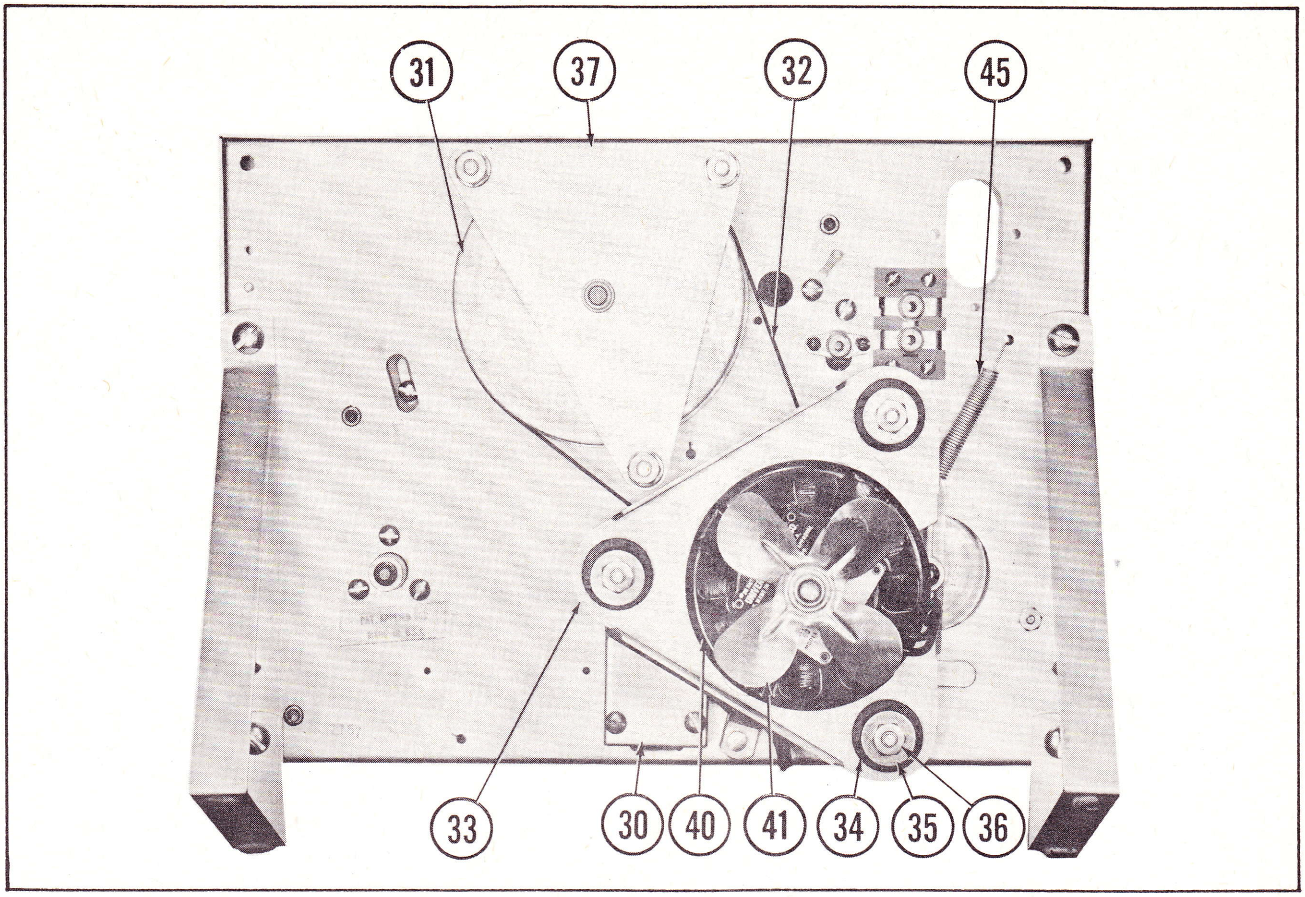


FIGURE 2

amplifier used, and allow about thirty seconds for the tubes to warm up.

2. Insert the microphone plug into the "Mike" jack.

3. Place the Play-Record switch in the record position.

4. Move the Tape Motion Control to the "F" (forward) position.

5. Hold the microphone about six inches from your mouth and speak in a normal voice. Adjusting the "Volume" control causes the electronic eye indicator to respond. Check to be sure that the maximum peaks do not cause the eye to close entirely. This will avoid saturation or overloading of the tape with consequent distortion. Good recording is obtained when the electronic eye indicator closes less than half way on recording peaks.

To Record From Radio-

Recordings from a radio may be made by one of three ways:

1. Place the microphone about 6" to 12" in front of the radio speaker. Turn the radio volume control to a normal level. Setting it to high will cause distortion. Turn the radio tone control to maximum treble. Set the recording level and proceed with recording as described under "To Record From Microphone". This type of recording may not be satisfactory as other sounds may be picked up by the microphone which as a result will be recorded on the tape.

2. Have a shielded cable made up with a two conductor phone plug on one end and two alligator clips on the other end. Connect the alligator clips across the voice coil terminals on the radio speaker and insert the cord plug into the "input jack". Set the radio and Volume and Tone controls as described above. Set the recording level and proceed as described under "To Record From Microphone."

3. Have a shielded cable with a two conductor phone plug on one end and the other end connected across the radio volume control. Insert the phone plug into the "input jack". Set the recording level and proceed with the recording as described under "To Record From Microphone". The position of the radio volume and tone controls has no effect on this set up and may be set anywhere.

To Record From Phonograph-

1. If the phonograph being used has a standard pin type plug on the pickup leads, insert it into the "Radio-Phono" jack. Set the recording level and proceed with the recording as described under "To Record From Microphone".

To Record From Television-

1. Use one of the three methods described under "To Record From Radio" and proceed with the recording as described under "To Reoord From Microphone".

Fast Forward And Rewind-

High-speed forward or reverse can be obtained by moving the control knob (6) toward the head for rewind and all the way from the head for fast forward. Movement of this control will wind the tape on the desired reel at a high speed as long as the control is in this position. This control is primarily used in locating a desired portion of a recording in a few seconds.

To Play A Recording-

1. Thread tape as described under "Threading the Tape".

2. Turn control knob (6) to "Forward" and amplifier to playback.

3. Adjust the "Volume" and "Tone" controls for desired listening level.

To Edit And Splice Tape-

NOTE: Since it is impossible to edit and splice one track without affecting the other, recordings which are to be edited should be limited to one track only.

1. The tape may be edited by cutting out unwanted portions, or by joining selections into another sequence. Announcements may be inserted between selections, etc. Unused sections of tape can be spliced together for re-use.

2. For best results, cut tape at a slight diagonal, join ends together with splicing tape on the glossy side and trim off any excessive width.

Erasing Recorded Material-

Units having erase head the tape is erased automatically when unit is in the record position. If it is desired to erase a recording without putting anything on the tape follow the normal recording procedure, but leave the "Volume" control set at its extreme counterclockwise position.

ADJUSTMENTS

Removal Of Main Escutcheon-

To remove front panel, remove "tape feed compensator", tapelifter (if used), the four panel retaining screws at top and bottom edges and remove knob from tape motion control (6). With motor turned off, place tape motion control in forward position and lift off panel (24).

Takeup Drive Belt-

If the takeup reel (20) does not drive properly, loosen the idler bracket mounting screw (46) slightly and move bracket to right, increasing belt (13) tension.

NOTE: Too tight a belt will cause undesirable tension on tape during play. Do not move arm so far to right as to cause the lower corner to dig into the takeup reel hub when the Tape Motion Control is placed in the rewind position.

Supply Reel Brake-

Place Tape Motion Control (6) in "Rewind" position, loosen brake bracket mounting screws (47) slightly and so adjust bracket that pad (28) is just clear of supply reel hub (27). Tighten screw. With this adjustment properly made the brake spring will be forced away from the bracket approximately 1/64 inch when the Tape Motion Control is in "Stop" position.

Rewind Drive Adjustment-

Set rewind drive adjustment nut (25) so that spring (26) does not bear on bearing bracket when Tape Motion Control is in "Stop" position. (This adjustment must not be changed after setting supply reel brake adjustment.)

Takeup Reel Brake-

No adjustment is provided or necessary. Failure could occur only because of excessive wear or damage to pad (18).

Head Adjustments-

Head height is determined by fixed spacers. (A thinner spacer is provided for erase head (21) because of added track width.) Each head is factory adjusted using a very high frequency alignment tape and special indicators. Do not attempt azimuth adjustment unnecessarily.

To adjust head face parallel to tape, loosen retaining nut slightly and, using constant frequency tape, turn head (22) to obtain position providing maximum volume oscilloscope, or meter indication. (Adjust azimuth before completely re-tightening nut.)

To adjust azimuth use a suitable allen wrench and adjust the two set-screws alternately for maximum indication. A high frequency tape (at least 7500 cps) is necessary for precise adjustment. Tighten retaining nut and check to see that no reduction in output results. Use of an oscilloscope or output meter is essential. The procedure for adjustment of binaural heads is indentical. An erase head requires no azimuth adjustment. Merely position the head so face is parallel to tape.

Adjustment Of Tapelifter And Pressure Pad Assemblies-

NOTE: Pressure pad assemblies can be used only on binaural or erase record head assemblies (two heads). The tapelifter mechanism, however, is adaptable to single head unit.

Adjust cam (53) on shift rod (14) so that it is barely in contact with lifter when Tape Motion Control is in forward position. See that lifter assembly (installed after front panel is in place) is bottomed on mounting screw. Bend tapelifter support slightly if necessary to bring tapelifter fingers parallel to face of head and approximately 1/16 inch above top of head bracket (20) when Tape Motion Control (6) is in "Stop" position. When installing or readjusting a pressure pad assembly (57) it may be necessary to bend the pad holder spring (59). With the tape motion control in the "Forward" position, the pad rest squarely and very lightly on the face of the heads and on the tape path. No appreciable flexing of the springs should be noticeable as the pressure pads are raised to the lifted position. The mounting screw is accessible after the panel is in place only if the tape motion control is in the "Stop" or "Rewind" position.

Adjustment Of Tape Feed Compensator-

The purpose of the "tape feed compensator" is to absorb and average out the slight variations in tape

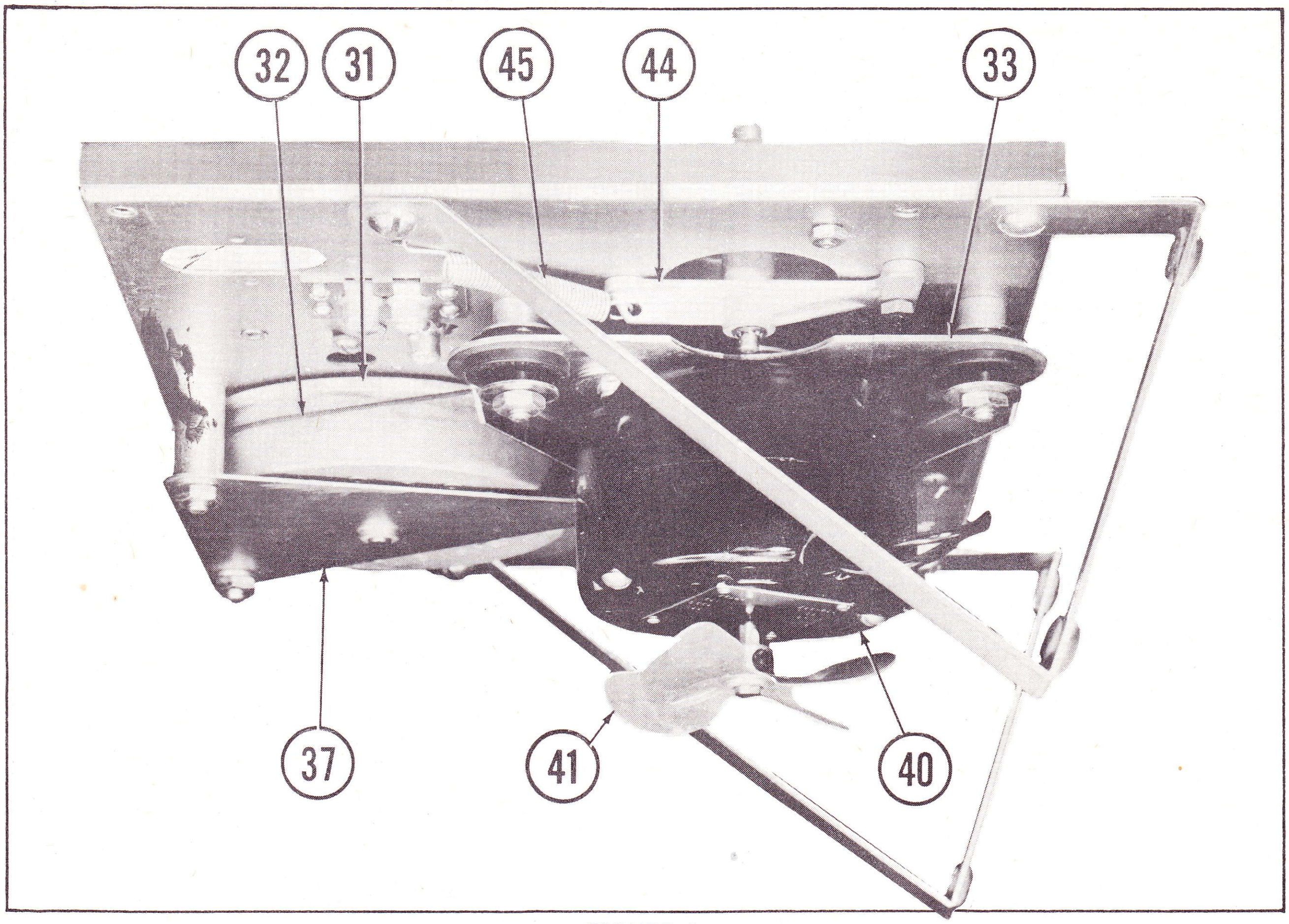


FIGURE 3

speed which can result from tape — sticking, cracked of warped supply reel, or an unbalanced winding of tape. Adjustment is not critical. The position of the compensating spring (9) should be such that it clears the supply reel (27) by approximately 1/8 inch at its unsupported end. The "tape feed compensator" must be installed after the front panel is in place.

Capstan Drive Belt-

To replace the drive belt (32), remove the three nuts in the triangular capstan rear bearing plate (37), remove plate and loop new belt over motor drive pulley (43). The large diameter groove is used for 7 1/2 ips and the smaller groove is used for 3 3/4 ips operation. Place belt (32) over capstan flywheel (31) and replace bearing plate (37). If capstan rear bearing plate (37) has been bent or is improperly installed, binding may result with loss of proper playing speed.

TROUBLES

Fails To Rewind-

1. The small rubber ring (42) loose or broken. To replace the ring, insert a small screw driver under ring and slip it over drive pulley (43).

Wow-

1. Check for flat spots on pressure roller (3). To replace pressure roller, pull off cap (1). If additional grip ring is provided, remove ring by spreading with screwdriver. Take off felt washer (2) and replace pressure roller (3).

Fails To Takeup-

1. Takeup belt (13) loose or broken, replace belt if broken.

2. If takeup reel (15) does not drive properly, loosen the idler bracket mounting screw slightly and move bracket (10) to right, increasing belt tension.

Recorder Fails To Playback-

1. Check playback-record head for proper alignment.

2. Check the recorded tape to see that the dull side of the tape faces the playback head (22).

Poor Frequency Response-

1. Accumulation of tape coating residue on the record-play head.

(a) After the "Viking" has been used for some time, the many thousands of feet of tape passing over the heads may have deposited a film of gum dust and dirt on the laminations. This film will reduce the efficiency of the recorder. This accumulation of tape coating residue and foreign material should be periodically removed by the use of a small

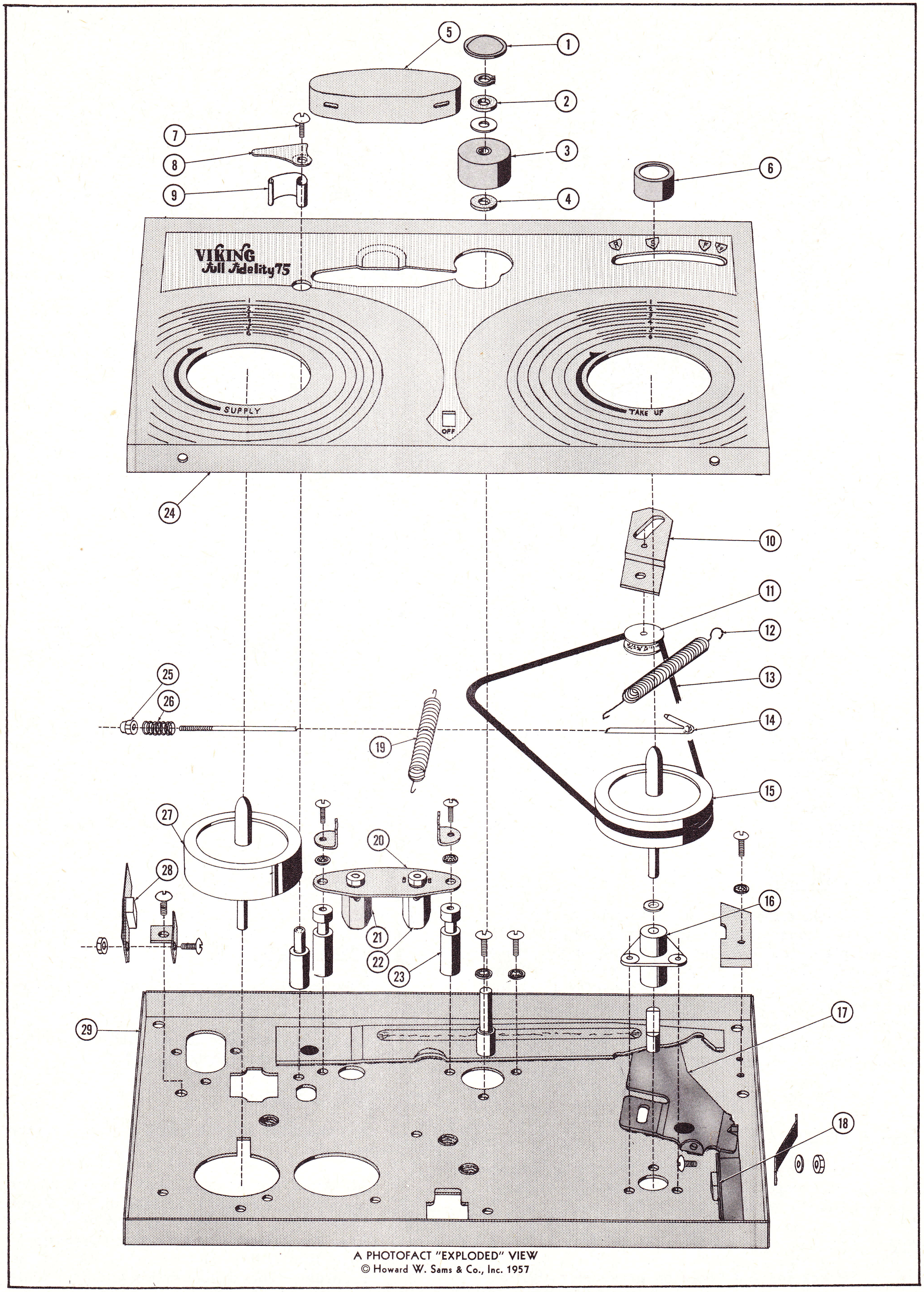
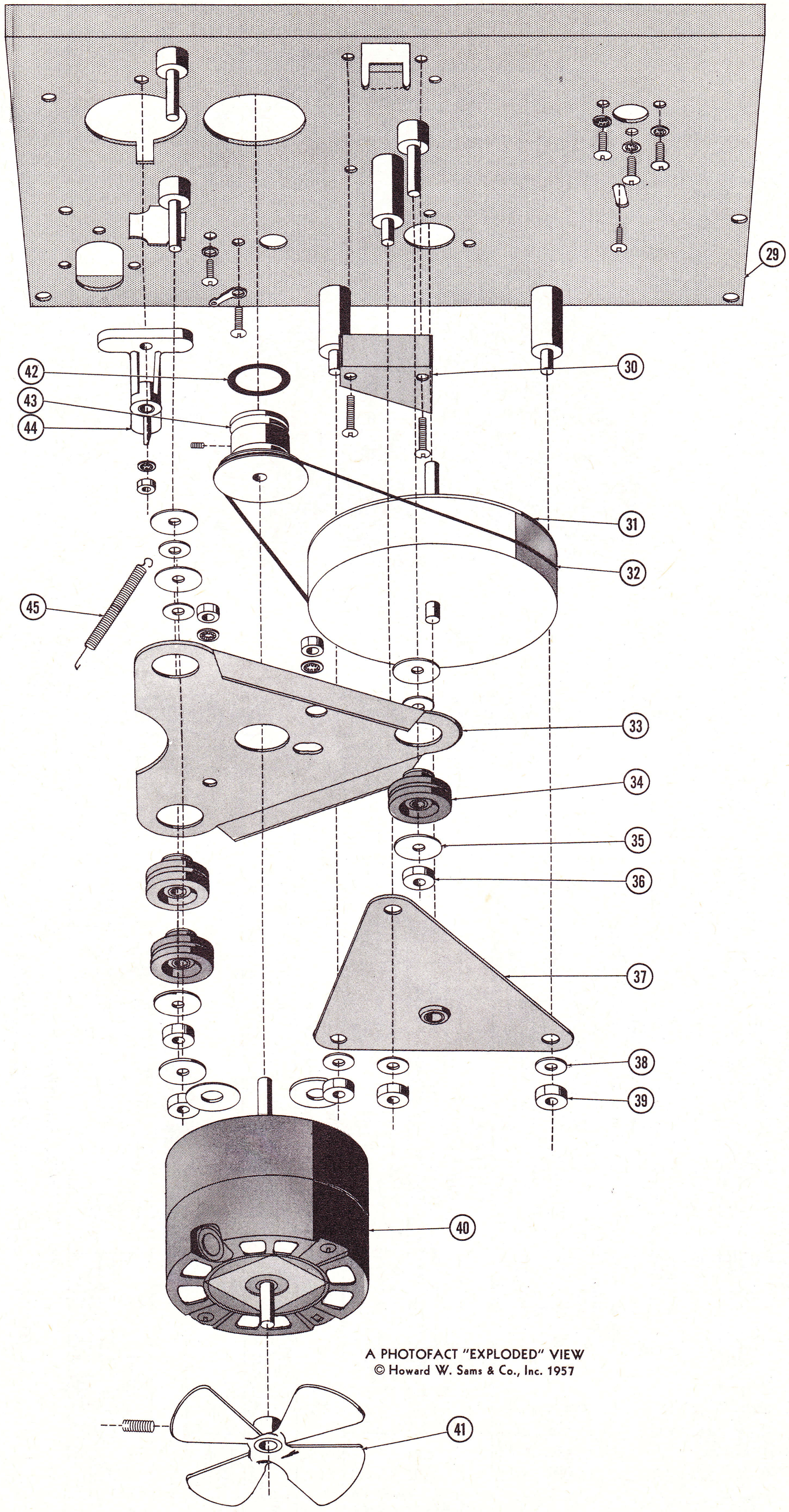


FIGURE 4A. EXPLODED VIEW OF PARTS ABOVE BASEPLATE.



A PHOTOFACT "EXPLODED" VIEW
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FIGURE 4B. EXPLODED VIEW OF PARTS BELOW BASEPLATE.

PARTS LIST AND DESCRIPTIONS

PB60 PREAMPLIFIER

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	AF Amplifier	5879	
V2	AF Amplifier Cathode Follower	12AX7	

ITEM No.	USE	TYPE	NOTES
V3	Rectifier	6X4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	VIKING PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1	30	250					TD-30-250		
C2A	▲20	250		AFH2-26	B0210	FP217	TMD-24	D-110	TVL-2515
B	■20	250							
C3	50	50		PRS50V50	BR505	TC39	TD-50-50	FM-0550	TVA-1308
C4	25	25		PRS25V25	BR252	TC26	TD-25-25	FM-0225	TVA-1205

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	VIKING PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	.01	400		BPD-01	DD-103	CUB4S1	GP3-333-103	GEM-411	4TM-S1	
C6	.01	400		BPD-01	DD-103	CUB4S1	GP3-333-103	GEM-411	4TM-S1	
C7	.047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	VIKING PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	500K	½	D4261-P5	B-60	A47-500K-Z	Q13-133	U48	Gain Control
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R1A
R2A	25K	½	D4261-P6	B-26	A47-25K-S	Q13-120	U29	Equalizer Control
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R2A

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	VIKING PART No.	IRC PART No.	
R3	2.2Meg			BTS-2.2Meg	
R4	330K			BTS-330K	
R5	2.2Meg			BTS-2.2Meg	
R6	100K			BTS-100K	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	VIKING PART No.	IRC PART No.	
R7	1200Ω			BTS-1200	
R8	22K			BTS-22K	
R9	100K			BTS-100K	
R10	6800Ω	2		BTB-6800	

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	VIKING PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @.16A	355VCT @.0024A	6.3V @.6A	6.3VCT @.42A	A9795					

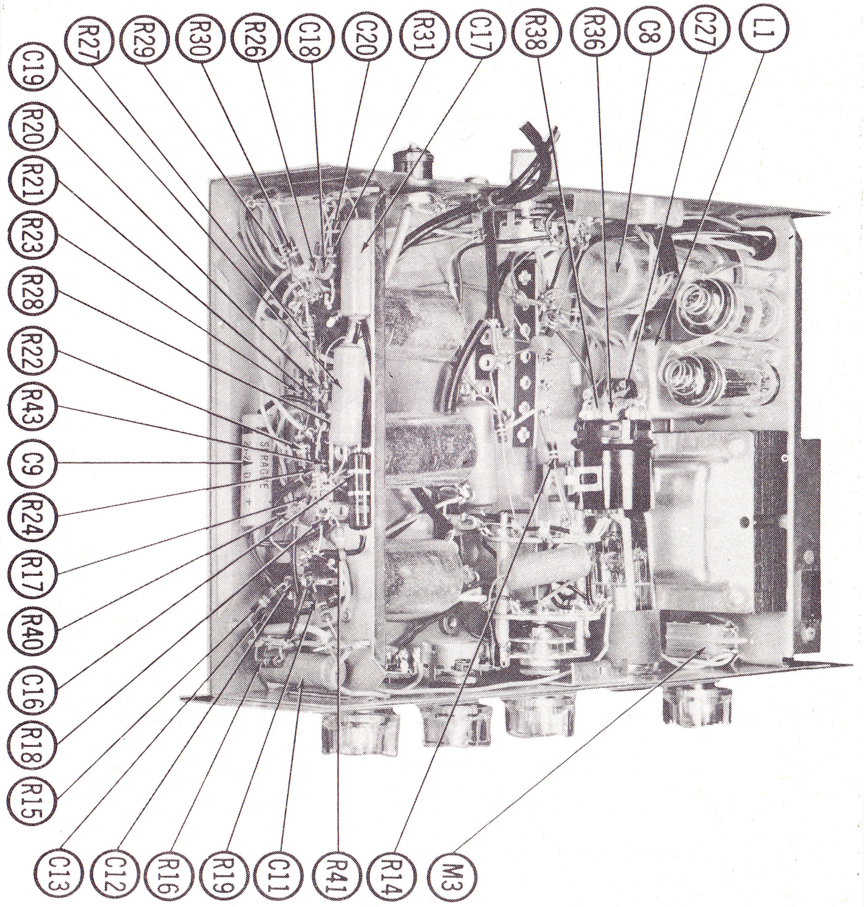
RP61 RECORD-PLAYBACK AMPLIFIER

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V4	Preamplifier	12AX7	
V5	AF Amplifier	12AU7A	
V6	Ease - Bias Oscillator	12AV7	

ITEM No.	USE	TYPE	NOTES
V7	Recording Indicator	6E5	
V8	Rectifier	6X4	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA VIKING PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C8A	■15	475		AFH2-64-50	B0380	FP258	TMD-48	D-260	TVL-2830
B	▲15	475							
C9	25	25		PRS25V25	BBR25-25	TC26	TD-25-25	FM-0225	TVA-1205
C10A	▲30	250		AFH3-89	CO670	FP331	TMT-74	T-340	TVL-3513
B	■30	250							
C	20	25							

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA VIKING PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C11	.1	200		P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1	
C12	50			BPD-00005	D6-500	G034	831-500	UC-545	5GA-Q5	
C13	.047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C14	100			BPD-0001	DD-101	G042	801-101	UC-531	5GA-T1	
C15	.047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C16	.01	400		BPD-01	D6-103	CUB4S1	GP3-333-103	GEM-411	4TM-S1	
C17	.047	400		BPD-05	DF-503	CUB4S47		GEM-4147	4TM-S47	
C18	100			BPD-0001	DD-101	G042	801-101	UC-531	5GA-T1	
C19	.022	200		BPD-02	DD-203	CUB4S22	817-02	GEM-4122	4TM-S22	
C20	.01	400		BPD-01	DD-103	CUB4S1	GP3-333-103	GEM-411	4TM-S1	
C21	50	1000		HVD-15-47	D6-500	VQ47	1R5KV-470	DC30447	10GAB-Q47	
C22	.1	400		P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C23	500			SI500	D6-501	TP47	GP2K-501	UC-535	5GA-T5	
C24	1000	1000		HVD-15-1000	DD-102	VD1	1R5KV-102	DC3021	10HKB-D1	
C25	500			SI500	D6-501	TP47	GP2K-501	UC-535	5GA-T5	
C26	750			BPD-00075	D6-751	G066	GP2L-751	UC-5375	5GA-T75	
C27	.01	400		BPD-01	DD-103	CUB4S1	GP3-333-103	GEM-411	4TM-S1	

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA VIKING PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R11A	250K	½	B-51	B-51	A47-250K-Z	Q13-130	U44	Level Control
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R11A
R12A	5K	½	B-10	B-10	A47-5000-S	Q11-114	U14	Equalization Control
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R12A
R13A	250K	½	B-51	B-51	A47-250K-Z	Q13-130	U44	Bias Adjust
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R13A

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA VIKING PART No.	IRC PART No.	NOTES
R14	100K			BTS-100K	
R15	1000Ω			BTS-1000	
R16	10Meg			BTS-10Meg	
R17	220K			BTS-220K	
R18	220K			BTS-220K	
R19	5600Ω			BTS-5600	
R20	1Meg			BTS-1Meg	
R21	100K			BTS-100K	
R22	100K			BTS-100K	
R23	3300Ω			BTS-3300	
R24	33K			BTS-33K	
R25	120K			BTS-120K	
R26	2.2Meg			BTS-2.2Meg	
R27	68K			BTS-68K	
R28	120K			BTS-120K	

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA VIKING PART No.	IRC PART No.	NOTES
R29	33K			BTS-33K	
R30	100K			BTS-100K	
31	3300Ω			BTS-3300	
32	220K			BTS-220K	
33	220K			BTS-220K	
34	1800Ω			BTS-1800	
35	50K 5%				
36	4.7Meg			BTS-4.7Meg	
37	10K			BTS-10K	
38	1Meg			BTS-1Meg	
39	2200Ω			BTS-2200	
40	100Ω			BTS-100	
41	100Ω			BTS-100	
42	33K			BTS-33K	
43	220K			BTS-220K	

COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA VIKING PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L1	Bias Osc.	72Ω*	29Ω					* Tapped @38Ω

CHASSIS—BOTTOM VIEW

TRANSFORMER (POWER)

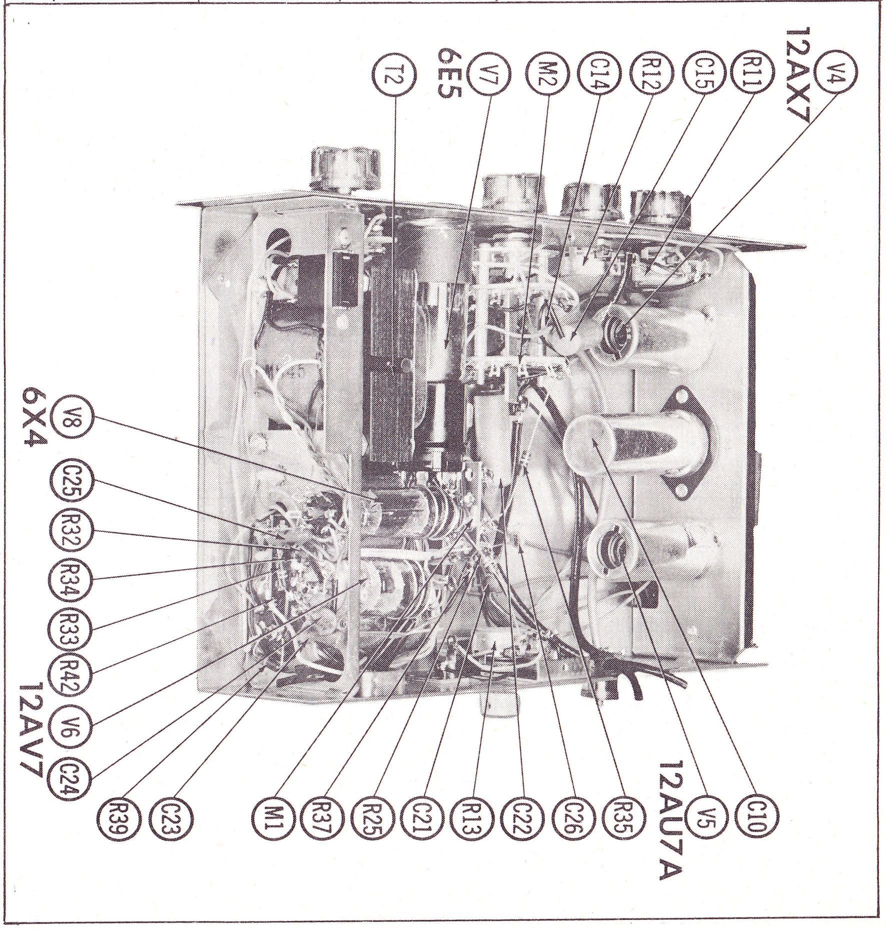
ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA VIKING PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @.2A	510VCT @.009A	6.3V @.6A	6.3V @1.32A	M845					

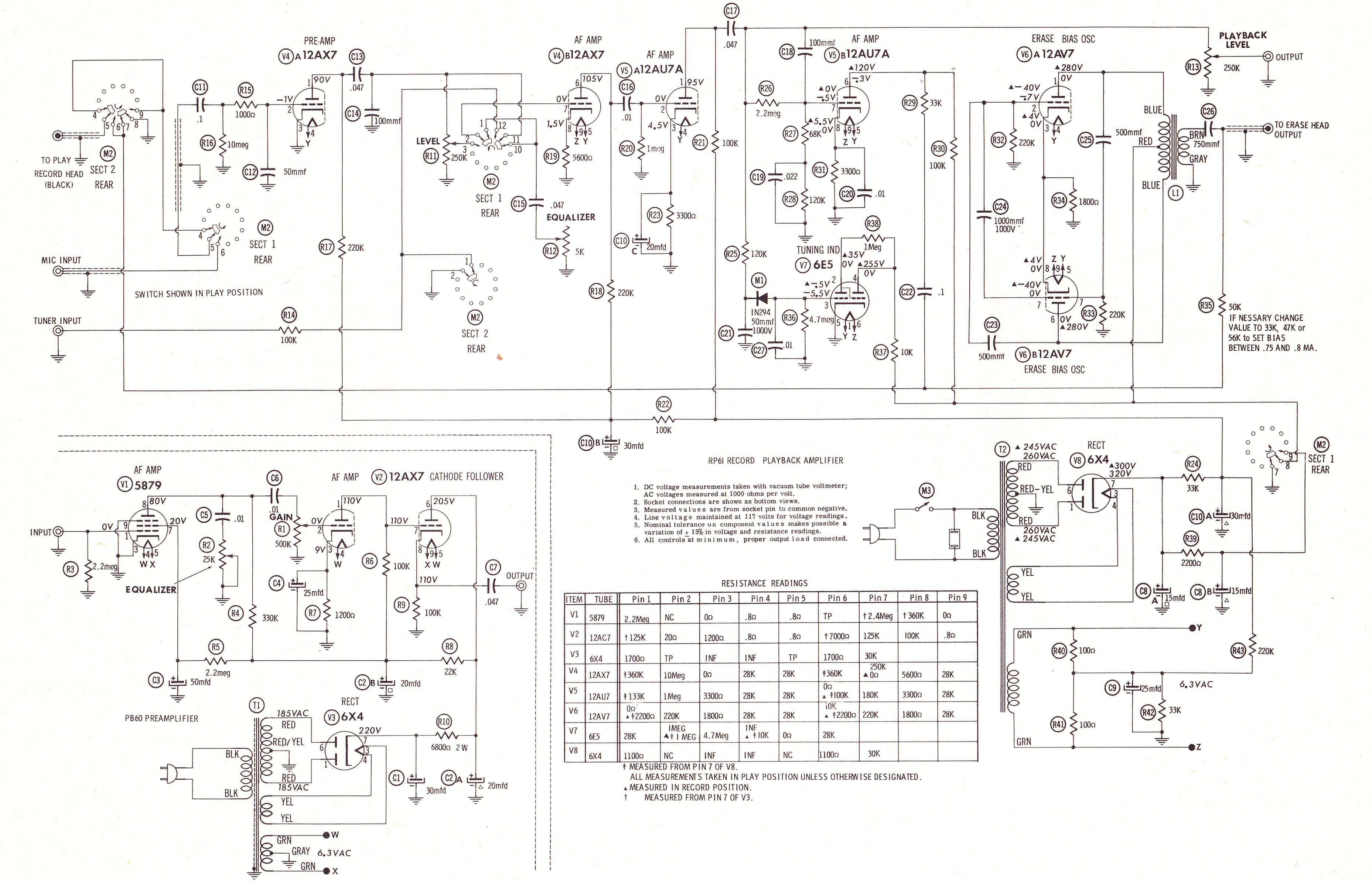
CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA VIKING PART No.	SYLVANIA PART No.	NOTES
M1	1N294		1N34A	Bias Diode Record Indicator (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	VIKING PART No.	NOTES
M2	Switch		Play-Record (2 Gang DPDT Rotary Wafer Type)
M3	Switch		On-Off SPST Rotary





RP61 RECORD PLAYBACK AMPLIFIER

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	5879	2.2Meg	NC	0Ω	.8Ω	.8Ω	TP	†2.4Meg	†360K	0Ω
V2	12AC7	†125K	20Ω	1200Ω	.8Ω	.8Ω	†7000Ω	125K	100K	.8Ω
V3	6X4	1700Ω	TP	INF	INF	TP	1700Ω	30K		
V4	12AX7	‡360K	10Meg	0Ω	28K	28K	‡360K	250K ▲0Ω	5600Ω	28K
V5	12AU7	‡133K	1Meg	3300Ω	28K	28K	0Ω ▲‡100K	180K	3300Ω	28K
V6	12AV7	0Ω ▲‡2200Ω	220K	1800Ω	28K	28K	10K ▲‡2200Ω	220K	1800Ω	28K
V7	6E5	28K	1MEG ▲‡1 MEG	4.7Meg	INF ▲‡10K	0Ω	28K			
V8	6X4	1100Ω	NC	INF	INF	NC	1100Ω	30K		

‡ MEASURED FROM PIN 7 OF V8.
ALL MEASUREMENTS TAKEN IN PLAY POSITION UNLESS OTHERWISE DESIGNATED.
▲ MEASURED IN RECORD POSITION.
† MEASURED FROM PIN 7 OF V3.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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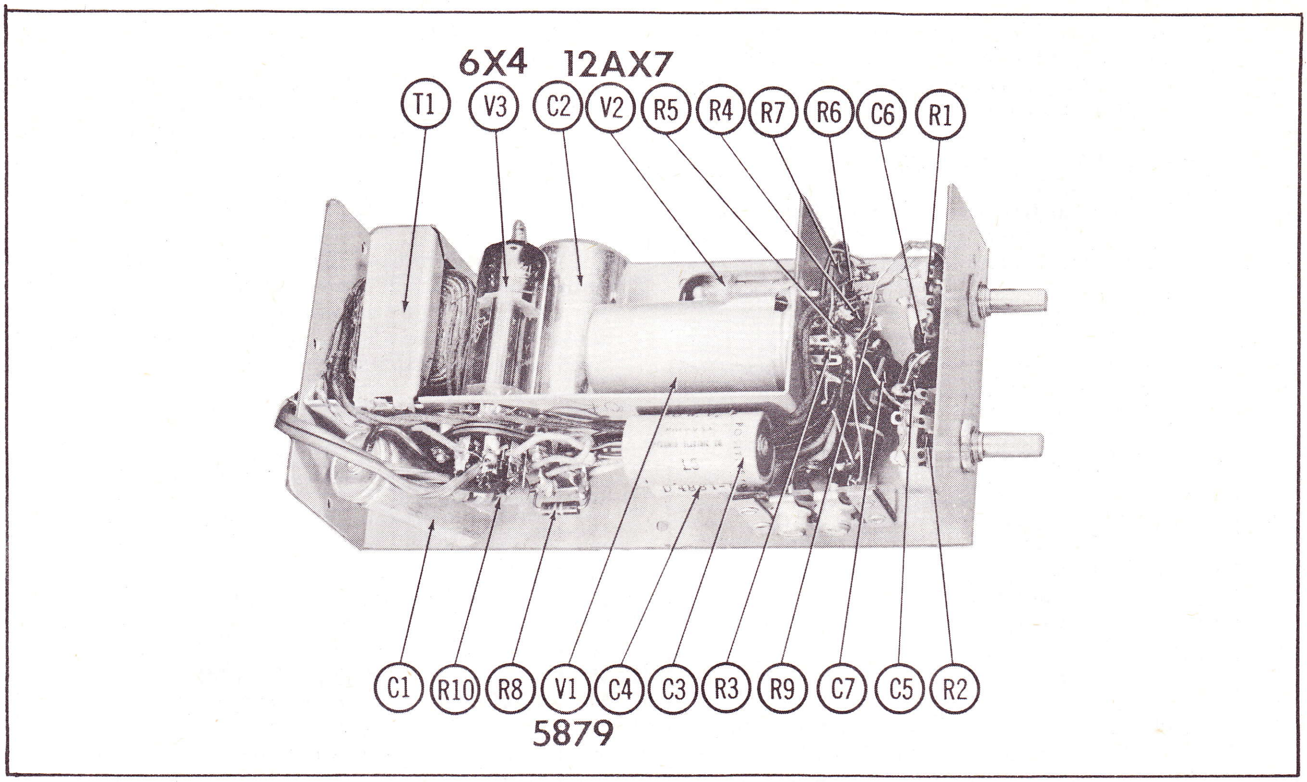
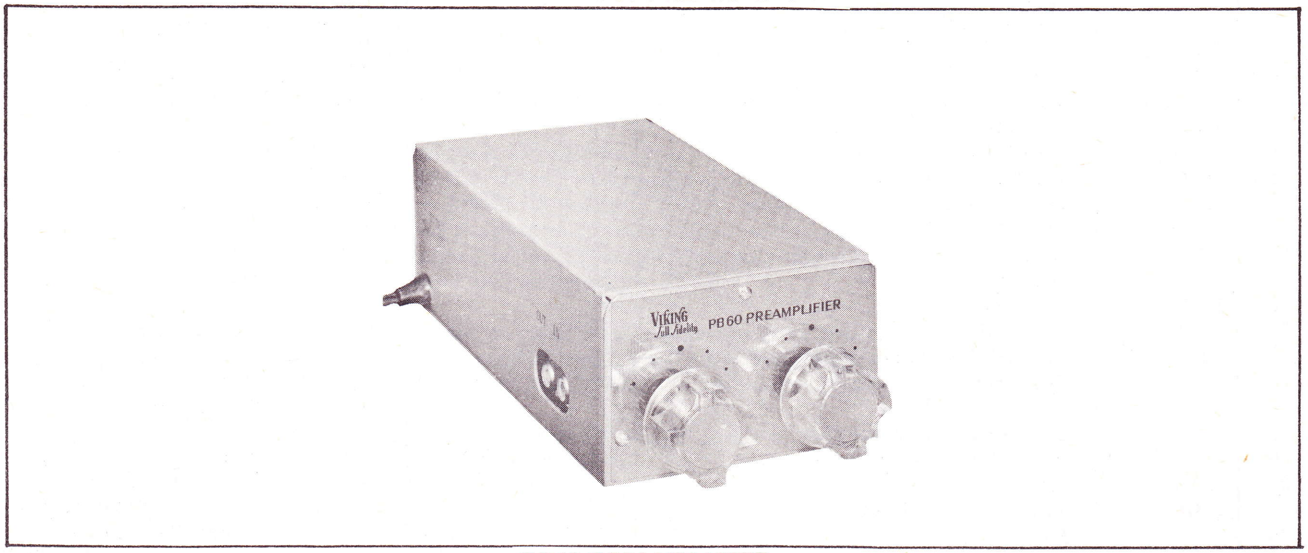
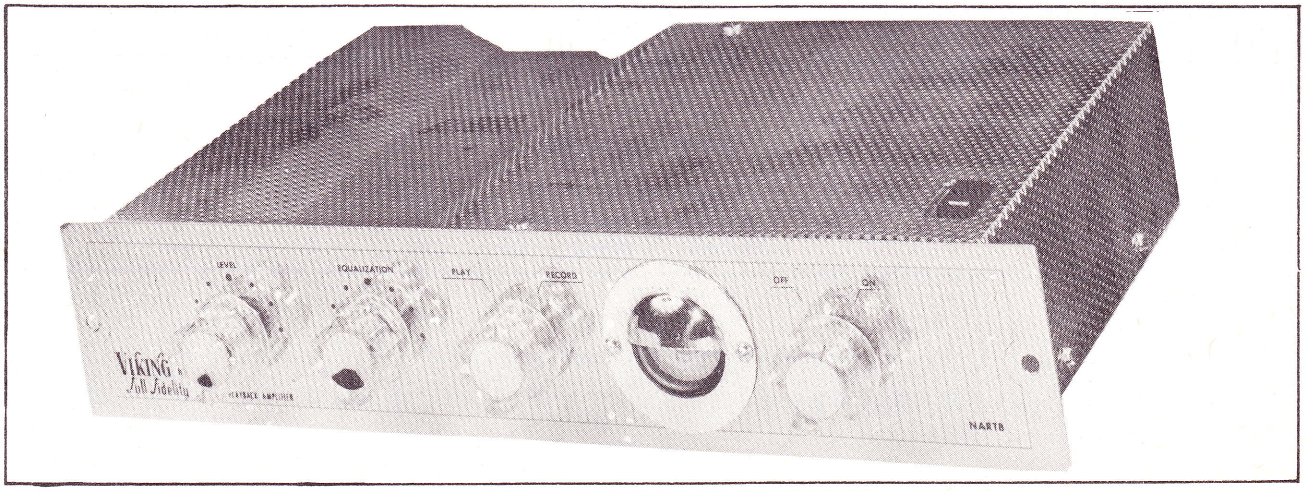


CHASSIS PB60 PREAMPLIFIER



PB60 PREAMPLIFIER



RP61 RECORD-PLAYBACK AMPLIFIER

cotton swab on the end of a toothpick and carbon tetrachloride as the cleaner. Be careful not to mar the laminations as they should be smooth to operate properly.

2. To much or too little bias.

(a) This can be caused by the frequency varying from the desired 60 to 70KC. Check and replace the faulty components.

LUBRICATION

All rotating parts are provided with generous size oilite bearings, which are factory lubricated and require no further attention.

An occasional cleaning out of foreign matter under the Main Escutcheon (24) is desirable, and a small drop of oil on the sliding lever members is advisable.

CLEANING

The record head (22), capstan (31) and pressure roller (3) are subject to an accumulation of tape coating residue, which is worn off the tape as it passes these parts. Use a soft cloth and alcohol to clean the head surfaces, capstan and pressure roller.

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description
1	D346	Retaining Cup
2	D357	Felt Washer
3	D312	Pressure Roller
4	D357	Felt Washer
5		Head Cover
6		Tape Motion Control
	D-342B	Tape Feed Compensator Includes the following (7, 8 and 9)
7		Cover Retaining Screw
8		Spring Cover
9		Compensator Spring
10	D314A	Idler Pivot
11	D315	Idler
12		Spring
13	D339	Takeup Belt
14	D316	Control Link
15	D332	Takeup Reel Hub
16	D334	Takeup Reel Bearing
17		Control Arm
18	D361	Brake
19		Spring
20	D340B	Bracket
21	75-5	Erase Head
22	75-1	Record-Playback/ Monitor Head
23		Head Support Post
24		Main Escutcheon
25		Control Adjustment Nut
26		Control Spring
27	D331	Supply Reel Hub
28	D318	Supply Wheel Brake
29		Base Plate
30		Switch Cover
31	D335XA	Capstan Assembly
32	D359	Motor Belt
33		Motor Mounting Bracket
34		Shock Mount (3)
35		Washer No. 12 (6)
36		Nut No. 12-24 (3)
37	D325	Outer Bearing Plate
38		Washer No. 12
39		Nut No. 12-24
40	D362CA	Motor Assembly (Includes 33, 34, 35 and 36)
41		Fan (with set screw)
42		Drive Belt
43		Pulley
44	D333	Supply Reel Bearing
45		Spring
46		Idler Mounting Bracket Screw
47		Brake Bracket Mounting Screw
48	D-368AA	Tapelifter Assembly Includes the following:
49		Lifter Slide
50		Slidewasher
51		Lockwasher (2)
52		Slide-Mounting Screw (2)
53		Lifter Cam and Screws
54		Slide Tension Spring
55		Lifter Attachment Screw (1)
56		Tapelifter
57	D368XA	Tapelifter, Pressure Pad Assy. (Same as Item 48 except (56) omitted and add the following:)
58		Lifter and Pad Holder Bkt.
59		Pad Holder (Spring & Pad)
60		Pad Holder Mtg. Screw (1)
61		Pad Cover